

CLAIMS:

1. A two speed transmission including:
 - an input shaft;
 - a lay shaft spaced from the input shaft;
 - 5 a first gear train connecting the input shaft to the lay shaft;
 - a second gear train connecting the lay shaft to an output shaft the gear train including a one way clutch;
 - 10 a first clutch for engaging the input shaft with the output shaft the arrangement being such that when the output shaft is disengaged from the input shaft forward drive is transmitted to the output shaft via the first and second gear trains and the lay shaft; and
 - 15 a second clutch for selectively disengaging the lay shaft from the first gear train to enable reverse drive to be transmitted from the input shaft to the output shaft by the first clutch.
2. A two speed transmission as claimed in claim 1 wherein the second clutch is a dog clutch.
3. A two speed transmission as claimed in claim 1 or 2 wherein the transmission is arranged such that when the first clutch is disengaged, power is transmitted from the input shaft via the gear trains and the lay shaft via the one way clutch to the output shaft which provides first gear and wherein when the clutch is engaged power is transmitted from the input shaft directly to the output shaft to provide a second, relatively higher gear.
- 25 4. A two speed transmission as claimed in any preceding claim further including a control system is provided for controlling slippage of the first clutch.
5. A two speed transmission as claimed in claim 4 further including means for monitoring both the input shaft speed and the output propeller speeds and wherein the control system is arranged such that the slip speed of the first clutch may be controlled by using the output speed as an input to control the slip speed, allowing for controlled slippage of the first clutch at any speed and torque.
- 35 6. A two speed transmission system for a marine craft comprising:
 - an input shaft;

an output shaft,
a first gear train for connecting the input shaft to the output shaft for driving the same in a first forward gear;
a second gear train connecting the input shaft to the output shaft for driving the 5 output shaft in a second forward gear;
a friction clutch for selecting between the first and second gear;
a one-way clutch for allowing overrun of the first gear train when the second gear is selected; and
means for disengaging the one-way clutch to allow reverse drive to be 10 transmitted from the input shaft to the output shaft.